

REMARKS

Upon entry of the present Amendment, claims 1-9 and 14 are all the claims pending in the Application. Claims 1, 5 and 9 are amended. Claims 10-13 and 15-16 are cancelled without prejudice or disclaimer. No new matter is presented.

To summarize the Office Action, claims 1, 3, 5, 7, 9 and 10-16 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kunze et al. (U.S. Patent 6,879,593, hereinafter “Kunze”), claims 2 and 6 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kunze in view of Wootton et al. (U.S. Patent No. 6,128,298, hereinafter “Wootton”), and claims 4 and 8 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kunze in view of Chitturi (U.S. Patent No. 6,760,780). The outstanding rejections are traversed, as discussed below.

Claim Rejections - 35 U.S.C. § 102

As noted above, claims 1, 3, 5, 7, 9 and 10-16 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Kunze. Applicant respectfully traverses and submits that Kunze fails to teach all the recited features of these claims, as evidenced by the following.

With respect to claim 1, claim 1 defines a network address conversion system for enabling an access to a node of a private network, having a private IP address and an internal port value, comprising, *inter alia*, a reservation unit which receives an access reservation demand from an external network node to access a specific node of the private network, and an external port value allocation unit which allocates a first external port value to the specific node, which is

different from the internal port value of the specific node of the private network, in response to receiving the access reservation demand, and transmitting the first external port value to the external network node. Claim 1 further recites a mapping table which records a mapping relationship between the first external port value and the internal port value of the specific node, and an address conversion unit which converts the first external port value into the private IP address when the external network node accesses the specific node by using the first external port value.

Applicant submits that Kunze fails to suggest *at least* the features of the first external port value that is allocated to the specific node in response to receiving the access reservation demand from the external node is a *new port value* and said new port value is allocated *when the access reservation demand is received*, and the feature of the address conversion unit receives a response packet from the external node that *includes the new port value* and *converts the new port value to the internal port value* such that the response packet is transmitted to the specific node with the internal port value, as defined by claim 1.

In this regard, Applicant notes that Kunze relates to a method for establishing a network connection between public and private nodes in which connection requests from a public node that are received by a gateway connecting the public node to private nodes do not require previous mapping of a socket to a particular private network socket. *See* Kunze at col. 1, lines 55-62 and col. 2, lines 7-19. As taught by Kunze, network gateway 10 receives incoming network packets (i.e., packets from public node 30) and determines whether the incoming packets contain a recognizable connection request. *See* Kunze at col. 3, lines 28-48. The

connection request may be, for example, a request to connect with a particular user running an internet telephone application. *See* Kunze at col. 3, lines 43-46.

If the gateway 10 determines that a recognizable connection request is received, the connection request is then forwarded to a plurality of nodes on the private network. *See* Kunze at col. 3, lines 49-60. Subsequently, Kunze teaches that gateway 10 monitors the plurality of private nodes to determine whether a node responds to the connection request. In other words, Kunze *assumes* that only the private nodes that are executing a particular application that corresponds to the connection request will respond when the connection request is received. *See* Kunze at col. 3, lines 61-68.

As further taught by Kunze, if a response is received from a socket (i.e., the IP address of a particular private node and port number), the response is modified to appear as if it originated from the gateway by changing the source address to the gateway's public IP network socket on which the request packet was originally received. The modified response is then forwarded to the public network socket from which the connection request was received. *See* Kunze at col. 4, lines 19-25. Next, a confirmation packet from the public network socket is received at the gateway, an entry is established in a socket map, and connection between the public and private nodes is established. *See* Kunze at col. 4, lines 27-41.

However, Kunze fails to teach any conversion of a *new port value* to the original port number (i.e., internal port value), which is different from the allocated first external port value. For instance, Applicant notes that in the connection method of Kunze, the initial connection request relies upon the assumption that the port number of the request will be identical to a port

number of a socket on a private node that is executing an application using the particular port number. *See* Kunze at col. 3, lines 49-60. Indeed, Kunze teaches connection requests are “application specific” and that “[o]nly those nodes on which the application is running will respond to requests on those ports.” *See* Kunze at col. 3, lines 60-67.

Moreover, even when Kunze teaches that a port number is reassigned, Kunze clearly teaches that the socket and associated port number are *closed*, and therefore would not be converted to the original “internal port value”, as claimed. In this regard, Kunze teaches that initial communications may be established on a first “well-known” port (e.g., a port associated with the SMTP protocol) and then switched to another port for bulk transfer. *See* Kunze at col. 4, lines 55-58. However, Kunze teaches that the node that accepted the transmission transmits a new socket identifier, and then *closes the original connection* and listens on the newly identified socket for a new connection request. *See* Kunze at col. 4, lines 58-63. Thus, even where the port number is changed, Kunze fails to suggest conversion of the new port value to the internal port value, as defined by claim 1.

Accordingly, Kunze fails to suggest *at least* the features of the first external port value that is allocated to the specific node in response to receiving the access reservation demand from the external node is a new port value and said new port value is allocated when the access reservation demand is received, and the feature of the address conversion unit receives a response packet from the external node that includes the new port value and converts the new port value to the internal port value such that the response packet is transmitted to the specific

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node with the internal port value, as defined by claim 1. Reconsideration and withdrawal of the rejection of claim 1 is therefore requested.

Further, Applicant submits that the above arguments are applicable to independent claims 5 and 9, which respectively define a network address conversion method and recording medium for recording a network address conversion method, and recite analogous features to those discussed above with respect to claim 1 which are likewise neither taught nor suggested by Kunze. Reconsideration and withdrawal of the rejection of claims 5 and 9 is therefore requested.

Further, with respect to dependent claims 2-4 and 6-8 and 14, Applicant submits that these claims are allowable at least by virtue of their respective dependency from claims 1, 5 and 9.

Claim Rejections - 35 U.S.C. § 103

With respect to the rejection of claims 2 and 6 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kunze in view of Wootton, and the rejection of claims 4 and 8 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kunze in view of Chitturi, Applicant submits, without commenting substantively, that these claims are allowable at least by virtue of their respective dependency from claims 1 and 5.

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Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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